15.0 INTRODUCTION TO CABINETRY

Prerequisite: None
This course is provided as a base level for students interested in careers in construction but more specifically for finish carpentry. Students will be given opportunities to build basic cabinet style models and learn finishing and staining techniques. Projects developed in this class may be craft related and are usually designed so that students learn how to properly use the equipment commonly found in commercial cabinetmaking businesses.

PROGRAM TASK LISTING EFFECTIVE DATE: November 2002

PROGRAM AREA: Technology Education

PROGRAM TITLE: Introduction to Cabinetry

IDAHO CODE NUMBER: TE 1922

15.01 Demonstrate the ability to work safely with a variety of technologies.

15.02 Demonstrate interpersonal skills as they relate to the workplace.

15.03 Identify and apply methods of information acquisition and utilization.

15.04 Apply basic skills in communications, mathematics, and science appropriate to technological content and learning activities.

15.05 Demonstrate and apply design/problem-solving processes.

15.06 Express an understanding of technological systems and their complex interrelationships.

15.07 Demonstrate the ability to properly identify, organize, plan, and allocate resources.

15.08 Discuss individual interests and aptitudes as they relate to a career.

15.09 Demonstrate employability skills and habits.

15.10 Demonstrate an understanding of entrepreneurship.

15.11 Make an informed and meaningful career choice.

15.12 Demonstrate proper and safe procedures and technical knowledge and skills in the use and care of drafting instruments, materials and equipment.

15.13 Demonstrate Proficiency in use and operation of hand tools.

15.14 Demonstrate and utilize proficiency in operating power tools.

15.15 Demonstrate and utilize proficiency in operating power equipment.

15.16 Demonstrate ability to plan, design, and layout cabinets.

15.17 Demonstrate proficiency in construction various cabinetry joints.

15.18 Demonstrate proficiency constructing and assembling cabinet components.

15.19 Demonstrate and utilize proficiency in construction and installing cabinet drawers and doors.

15.20 Demonstrate proficiency in applying laminates.

15.21 Demonstrate and utilize proficiency in ability to apply finishes.

15.22 Demonstrate ability to research and construct advanced cabinetry.

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15.01 DEMONSTRATE THE ABILITY TO WORK SAFELY WITH A VARIETY OF TECHNOLOGIES--

The student will be able to:

1. Select appropriate tools, procedures, and/or equipment needed to produce a product.
2. Demonstrate the safe usage of appropriate tools, procedures, and operation of equipment needed to produce a product.
3. Demonstrate knowledge required to maintain and troubleshoot.
4. Follow laboratory safety rules and procedures.
5. Demonstrate good housekeeping at work state and within total laboratory.
6. Identify color-coding safety standards.
7. Explain fire prevention and safety precautions and practices for extinguishing fires.

8. Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment.

15.02 DEMONSTRATE INTERPERSONAL SKILLS AS THEY RELATE TO THE WORKPLACE--
The student will be able to:

1. Perform roles in a student personnel system or in the Idaho Technology Student Association (ID-TSA).
2. Participate as a member of a team.
3. Teach others new skills.
4. Identify skills needed to serve clients/customers.
5. Demonstrate leadership skills.
6. Describe strategies necessary for negotiating agreements.
7. Demonstrate the application of skills necessary to work with people of diverse backgrounds.
8. Form an understanding and appreciation for work after listening to or observing technology workers.
9. Form an understanding and appreciation for work after participating in a simulated technology group project in the laboratory.
10. Form an understanding and appreciation for the roles and work of co-workers.

15.03 IDENTIFY AND APPLY METHODS OF INFORMATION ACQUISITION AND UTILIZATIONS--
The student will be able to:

1. Define terms related to computers.
2. Identify and describe methods of information acquisition and evaluation.
3. Discuss advantages and disadvantages in the application of technologies.
4. Produce a plan to organize and maintain information relevant to emerging technologies.
5. Comprehend and communicate information relevant to emerging technologies.
6. Demonstrate the use of computers to process information.

15.04 APPLY BASIC SKILLS IN COMMUNICATIONS, MATHEMATICS, AND SCIENCE APPROPRIATE TO TECHNOLOGICAL CONTENT AND LEARNING ACTIVITIES--
The student will be able to:

1. Identify and explain the main and subordinate ideas in a written work.

2. Distinguish different purposes and methods of writing, identify a writer's point of view and tone, and interpret a writer's meaning.
3. Define unfamiliar words by use of structural analysis, decoding, contextual clues, or by using a dictionary.
4. Distinguish fact from opinion.
5. Read critically by asking pertinent questions, by recognizing assumptions and implications, and by evaluating ideas.
6. Select, relate, and organize, ideas using outlining and/or graphic organizers and develop the ideas in coherent paragraphs.
7. Improve one's own writing by restructuring, correcting errors, and rewriting.
8. Gather and organize information from primary and secondary sources; write a report using this research; quote, paraphrase, and summarize accurately; and cite sources properly.
9. Vary one's writing style, including vocabulary and sentence structure, for different readers and purposes.
10. Write logical and understandable statements, or phrases, to accurately fill out commonly used forms.
11. Compose unified and coherent correspondence, directions, descriptions, explanations and reports.
12. Participate critically and constructively in the exchange of ideas, particularly during class discussions and conferences with instructors.
13. Conceive and develop ideas about a topic for the purpose of speaking to a group; choose and organize related ideas; present them clearly in Standard English; and evaluate similar presentations by others.
14. Use the mathematics of:
    - integers, fractions, and decimals;
    - ratios, proportions, and percentages;
    - roots and powers;
    - algebra;
    - geometry.
15. Make estimates and approximations, and judge the reasonableness of a result.
16. Use elementary concepts of probability and statistics.
17. Draw, read, and analyze graphs, charts, and tables.
18. Ask appropriate scientific questions and recognize what is involved in experimental approaches to the solutions of such questions through familiarity with laboratory and fieldwork.
19. Organize and communicate the results obtained by observation and experimentation.
20. Apply the basic principles of biology, physics, and chemistry: (properties of matter; structure of compounds; concepts of motion; temperature, pressure and volume; work, power, force and energy; machines; human cell structure).

21. Identify problems rooted in basic biology, physics, or chemistry (effects of hazardous materials on health and safety, effects of drugs on health, trouble shooting problems on a machine).

15.05 DEMONSTRATE AND APPLY DESIGN/PROBLEM-SOLVING PROCESSES--
The student will be able to:

1. Describe and explain steps in the design/problem-solving process.
2. Propose solutions to given problems.
3. Design and implement the optimal solution to a given problem.
4. Document each step of the design/problem-solving process.
5. Demonstrate "brainstorming" as a process to solve problems.
6. Define "critical thinking" and its value in the problem-solving process.

15.06 EXPRESS AN UNDERSTANDING OF TECHNOLOGICAL SYSTEMS AND THEIR COMPLEX INTERRELATIONSHIPS--
The student will be able to:

1. Demonstrate knowledge of how social, organizational, and technological systems work.
2. Explore methods used to monitor and correct performance of technological systems.
3. Design and implement an optimal solution to a given problem.
4. Outline major historical technological developments or events.
5. Identify recent advances in technology.
6. Explain problem-solving roles of technology.
7. Forecast a technological development or event.
8. Define technology.

15.07 DEMONSTRATE THE ABILITY TO PROPERLY IDENTIFY, ORGANIZE, PLAN, AND ALLOCATE RESOURCES--
The student will be able to:

1. Demonstrate the ability to select goal-relevant activities, rank them, allocate time, and prepare and follow schedules.
2. Use or prepare budgets, make forecasts, keep records, and make adjustments to meet objectives.
3. Demonstrate the ability to acquire, store, allocate, and use materials or space efficiently.
4. Display knowledge of the efficient use of human resources.

15.08 DISCUSS INDIVIDUAL INTERESTS AND APTITUDES AS THEY RELATE TO A CAREER--
The student will be able to:

1. Describe individual strengths and weaknesses.
2. Discuss individual interests related to a career.
3. Identify careers within specific areas of technology.
4. Explore careers within specific areas of interest.

15.09 DEMONSTRATE EMPLOYABILITY SKILLS AND HABITS--
The student will be able to:

1. Identify employment opportunities.
2. Apply employment seeking skills.
3. Interpret employment capabilities.
4. Demonstrate appropriate work behavior.
5. Maintain safe and healthy environment.
6. Maintain businesslike image.
7. Maintain working relationships with others.
8. Communicate on the job.
9. Adapt to change.
10. Demonstrate a knowledge of manufacturing.
11. Perform mathematical calculations.
12. Compile a portfolio.

15.10 DEMONSTRATE AN UNDERSTANDING OF ENTREPRENEURSHIP--
The student will be able to:

1. Define entrepreneurship.
2. Describe the importance of entrepreneurship to the American economy.
3. List the advantages and disadvantages of business ownership.
4. Identify the risks involved in ownership of a business.
5. Identify the necessary personal characteristics of a successful entrepreneur.
6. Identify the business skills needed to operate a small business efficiently and effectively.

15.11 MAKE AN INFORMED AND MEANINGFUL CAREER CHOICE--
The student will be able to:

1. Make a tentative occupational choice based on the information learned and interest developed in this course.
2. Review tentative occupational choices based on the information learned and interest developed in this course.

15.12 DEMONSTRATE TECHNOLOGICAL LITERACY ABOUT CABINETRY--
The student will be able to:

1. Define cabinetry technology.
2. Outline major technological developments and events in the history of cabinetry systems technology.
3. Identify recent advances in communications cabinetry technology.
4. Forecast a development or event in communications cabinetry technology.

15.13 DEMONSTRATE PROFICIENCY IN USE AND OPERATION OF HAND TOOLS --
The student will be able to:

1. Identify various hand tools.
2. Select correct tools for specific jobs.
3. Clean and care for tools.
4. Demonstrate proficiency in the safe use of hand tools.
5. Read and use carpenter's measuring tools.

15.14 DEMONSTRATE AND UTILIZE PROFICIENCY IN OPERATING POWER TOOLS--
The student will be able to:

1. Identify various power tools.
2. Select correct tools for specific jobs.
3. Clean and care for tools and equipment.
4. Demonstrate proficiency in the safe use of power tools.

15.15 DEMONSTRATE AND UTILIZE PROFICIENCY IN OPERATING POWER EQUIPMENT--
The Student will be able to:

1. Use a stationary table saw to make cross, rip, miter, dado, and groove cuts.
2. Use a radial arm say to make cross, rip, miter, compound angle, dado, and groove cuts.
3. Use a drill press to drill, counterbore and countersink holed in stock and bore holes at an angle.
4. Use a joiner to square, bevel, or chamfer stock.
5. Use a thickness planer to trim stock to a specified thickness.
6. Use a band saw to make straight curved rectangular and free hand cuts.
7. Remove and replace band saw blades.
8. Use a sharpener to mold stock with a template, fence, miter gauge or pin and bearing.
9. Use a power miter box saw to make miter cuts.
10. Abrade surfaces using a power belt, disc, and/or spindle sanders.

15.16 DEMONSTRATE ABILITY TO PLAN, DESIGN, AND LAYOUT CABINETS-
The student will be able to:

1. Convert measurements in inches to metric and metric to inches.
2. Interpret blueprints and explain common abbreviations used on drawings.
3. Draw working drawings to scale using an architect's ruler.
4. Lay out a rectangle, hexagon, octagon, ellipse, and circle.
5. Lay out various size angles.

15.17 DEMONSTRATE PROFICIENCY IN CONSTRUCTION VARIOUS CABINETRY JOINTS--
The student will be able to:

1. Construct a butt joint.
2. Construct a doweled joint.
3. Construct a dado joint.
4. Construct a rabbeted joint.
5. Construct a lap joint.
6. Construct a miter joint.
7. Install dowels in common wood joints.
8. Construct a tongue and groove joint.
9. Construct a splined edge joint.
10. Construct a mortise and tenon joint.
11. Construct a dovetail joint.
12. Construct an end lap joint.
13. Construct a middle lap joint.
14. Construct a cross lap joint.
15. Construct a dovetail lap joint.

15.18 DEMONSTRATE PROFICIENCY CONSTRUCTING AND ASSEMBLING CABINET COMPONENTS--
The student will be able to:

1. Lay out and cut cabinet components from solid wood, plywood and particle board.
2. Lay out and cut joints in cabinet components.
3. Assemble and fasten cabinet base frame.
4. Assemble and fasten cabinet sides, back and front.
5. Prepare cabinet components for special fittings.
6. Cut and assemble cabinet shelving.
7. Assemble and fasten cabinet top.
8. Lay out and cut back splash components.

15.19 DEMONSTRATE AND UTILIZE PROFICIENCY IN CONSTRUCTION AND INSTALLING CABINET DRAWERS AND DOORS--
The student will be able to:

1. Construct an overlay drawer.
2. Construct a lipped drawer.
3. Construct a flush drawer.
4. Install drawer guides.
5. Install drawer hardware.

15.20 DEMONSTRATE PROFICIENCY IN APPLYING LAMINATES--
The student will be able to:

1. Cut laminates to rough size of cabinet surfaces.
2. Apply glue to laminate and cabinet surfaces.
3. Accurately place laminate on cabinet surfaces.
4. Press and smooth laminate on cabinet on cabinet surfaces.
5. Trim off excess laminate and file edges.
6. Seam two pieces of laminate together.
7. Remove excess glue from laminate surfaces.

15.21 DEMONSTRATE AND UTILIZE PROFICIENCY IN ABILITY TO APPLY FINISHES--
The student will be able to:

1. Abrade wood surfaces for finishing.
2. Stain, bleach, fill, and seal wood surfaces.
3. Apply clear and pigmented finishers using brush, wipe, and spray.
4. Apply antiquing and glazing finishes.

15.22 DEMONSTRATE ABILITY TO RESEARCH AND CONSTRUCT ADVANCED CABINETRY--
The student will be able to:

1. Research various cabinet styles.
2. Construct different cabinetry of various styles.